

REMARKS

Applicant respectfully requests consideration of the subject application. This Response is submitted in response to the Office Action mailed April 29, 2008. Claims 1, 3 and 5-11 are pending. Claims 1, 3 and 5-11 are rejected. No new matter has been added.

35 U.S.C. § 103 Rejections

CLAIMS 1, 3 AND 6-11:

The Examiner has rejected claims 1, 3, 6-11 under 35 U.S.C. § 103(a) as being unpatentable over Knee, et al. (U.S. Patent No: 5,994,710, hereinafter "Knee") in view of Fahraeus, et al. (U.S. Patent No: 6,906,699, hereinafter "Fahraeus").

The Examiner states that claim 1 can be easily invented from the combination of Knee and Fahraeus. In this regard, claims 1 and 7 are independent claims and share the same technical features, and thus we will compare claim 1 with Knee and Fahraeus.

Claim 1 of the present application recites as follows:

"wherein said position tracing region for detecting the transition of position among the region capable of scanning of said input device is an integral part of said region capable of scanning by positioning said position tracing region in a predetermined region of said region capable of scanning."

In the present invention a position tracing region is an integral part of the region capable of scanning, and thus it is able to scan an image at the position tracing region. In other words, if a user selects the scanner function, the present invention can transmit image data detected from the entire region capable of scanning.

In contrast, Knee comprises image sensors (26, 29, 30) such as CCD or CIS and navigation sensors (20, 21) used in a conventional optical mouse as separate elements, as shown in Figs. 2A-2C. Thus, there is a difference from the present invention in that in contrast to the present invention, according to Knee, the position tracing region and the region capable of scanning are not integral and image data is not detected from the position tracing region and the entire region capable of scanning.

Due to the constitutional difference, in the present invention, the image sensors (the part excluding the position tracing region from the region capable of scanning in the present invention) and the navigation sensors (the position tracing region in the present invention) are unified, not separated, and thus the present invention can **simplify elements** (reduce the number of elements) and thereby, **reduce costs**. In addition, the present invention produces a superior effect that **the apparatus could be easily carried since** its elements are unified and thus **the apparatus is small**.

Further, the present invention expects a superior effect that **it is not necessary to adjust positions between elements** because the elements are made integral as above, **and thus productivity is increased since the error rate is decreased**. Further, by making the position tracing region to be an integral part of the region capable of scanning, its moving angle and the like could be simply calculated when the apparatus of the present invention is moved; thus, a remarkable rate reduction in image processing could be expected.

Moreover, the present invention has the effect of **maximizing the region to be scanned** since it can even scan the part where Knee cannot because of the navigation sensors. Further, the present invention could **correctly position the subject to scan without trial and error** because according to the present invention, the boundary of scanning can be easily identified.

However, the Examiner states that the feature of the present invention that 'the position tracing region and the region capable of scanning are unified and image data is detected from the position tracing region and the entire region capable of scanning' is disclosed in Fahraeus.

Fahraeus relates to an input unit having a mouse function and at least one inputting function (including a scanning function) (refer to Figs. 1 and 2), and comprises a button (27) which sets to the function of the input unit and an electronic circuitry part (4) which processes according to an input of a user, and

discloses that if a user sets the unit to the mouse function, the input unit starts operating in the mouse mode, images are recorded, the relative positions of the images are determined, and a position signal is transmitted to a computer, and if a user sets the unit to the scanning function, the input unit starts operating in the scanning mode, images are recorded and the images are put together into a whole composite image.

In this connection, as shown in Fig. 2, according to the present invention, the position tracing region for the mouse function, i.e., for tracing the position movement of the apparatus, is included in the region capable of scanning; however, the position tracing region for performing the mouse function itself is not the region capable of scanning, but is an integral part of the region capable of scanning.

In contrast, Fahraeus comprises **one Optic Part in one Portable device**, and the Optic Part is used as a mouse, Scanner, Camera or Input Device to perform handwriting/Drawing functions. In other words, in Fahraeus, **the region for tracing the position and the region for scanning are identical, a window (2; refer to Fig. 1) and the position tracing region is not separately set.**

Further, Fahraeus cannot read a broad area of data because Fahraeus uses one Optic Part, and thus it is not practical to use the Optic Part as a scanner. In other words, Fahraeus uses a general mouse chip, but in this case, there is a problem that to scan A4 or letter size paper, it should be scanned as many times as its width multiplied by its length.

In addition, according to Fahraeus, a position tracing is made using the images read by a camera and at the same time only the images of the corresponding size are put together into a scan image; in contrast, the present invention traces a position using a plurality of images (e.g., a spot) for tracing positions that exist on any position so that a recognition rate for tracing positions is improved, and that position coordinates can be set based on the plurality of images for tracing positions and efficiency its scanning can be improved because images are tied to their corresponding coordinates.

Moreover, Fahraeus **traces a position by tracing the changes in the image received from one sensor, and stores only the image**, while the present invention **accumulates and combines images collected at a plurality of image sensors including at least two position tracing regions (i.e., using a Tile method of re-combining images related to the coordinates)** so that it is able to restore an image even if the image at the same position is scanned repeatedly.

In other words, since Fahraeus uses with only one sensor, it is impossible to trace the original position when moving the position, because the coordinates are shaken if the sensor itself rotates (including the case of rotating the mouse chip).

More specifically, **when scanning a scanned portion again, there is no information to be compared, and thus Fahraeus cannot recognize the portion as the same portion, and accordingly, an accurate image cannot be restored.**

Specially, when the Mouse chip rotates on the original coordinates (when the

angle between the mouse chip to be scanned and the object to be scanned is changed), Fahraeus recognizes the identical image as being a different one when it is scanned the second time, and accordingly **it is impossible to restore the original image.**

Further, in case of Fahraeus, **the area of scan is smaller** than that of the present invention and thus if the contact with the surface to be scanned is not complete (i.e., in case where it is not closely contacted with the surface), the distance from the sensor is continuously varied, and thus **the image distortion is occurred due to the change of reduction rate**, and accordingly, there is a problem that it is difficult to restore an accurate image.

Therefore, the above differences in constitution and effect, claim 1 and the dependent claims 2-6 cannot be derived even if Fahraeus is combined with Knee. Claim 7 including the technical feature of claim 1 and the dependent claims 8-11 are also inventive for the same reasons as claim 1.

CLAIM 5:

The Examiner has rejected claims 1, 3, 6-11 under 35 U.S.C. § 103(a) as being unpatentable over Knee in view of Fahraeus as applied to claims 1, 3 and 5-11, and further in view of Bilbrey, et al. (U.S. Patent No: 4,543,571, hereinafter "Bilbrey").

The Examiner states that claim 5 can be easily invented from the combination of Knee to Bilbrey. Since claim 1 has inventive step over Knee and

Fahraeus, claim 5 depending from claim 1 also has inventive step over Knee to Billbrey.

Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 1, 3 and 5-11 under 35 U.S.C. § 103(a).


Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen M. De Klerk at (408) 720-8300.

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,

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